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Comparison of Stoke's and Hotine's integral transformation

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Pizzetti integral formula describes the relationship between free-air gravity anomalies and the disturbing potential if we use generalized Stokes's function. This type of integral transformation can also be described between gravity disturbances and the disturbing potential if we use Hotine's function. If we rewrite this formula to a tensors form, then we can obtain a relation between the free-air gravity anomalies or gravity disturbances and the disturbing gravity tensor. This tensor formula can be used for upward or downward continuation of GOCE measurements. Solvability of downward continuation depends on many factors. One of these factors is geometry of a computation domain. This paper deals with determination of optimal geometry (altitude and horizontal distribution of points) for the downward continuation for the regional gravity field modelling using both synthetic and a real GOCE data.